

**IN THE CLAIMS:**

- 1 1. (Cancelled)
- 1 2. (Previously Presented) The system of claim 60 wherein the user interface system  
2 comprises a command line interface (CLI) configured to support the command set.
- 1 3. (Previously Presented) The system of claim 60 wherein the command set further  
2 comprises an igroup command that determines whether a set of initiators may utilize data  
3 access command proxying.
- 1 4. (Original) The system of claim 3 wherein the set of initiators comprises at least one  
2 fibre channel world wide name.
- 1 5. (Original) The system of claim 3 wherein the set of initiators comprises one or more  
2 iSCSI identifiers.
- 1 6. (Original) The system of claim 3 wherein the igroup command sets an igroup option to  
2 determine whether members of a set of initiators may use a partner port for proxying data  
3 access command.
- 1 7. (Original) The system of claim 3 wherein the command set further comprises a cfmode  
2 command that sets a cluster mode for the clustered storage system.
- 1 8. (Original) The system of claim 7 wherein the cluster mode enables the clustered  
2 storage system to proxy data access requests received by a first storage system in the  
3 clustered storage system to a second storage system in the clustered storage system.

1 9. (Original) The system of claim 7 wherein the cluster mode enables a first storage  
2 system in the clustered storage system to assume an identity of a second storage system  
3 in the clustered storage system.

1 10. (Original) The system of claim 7 wherein the cluster mode enables proxying of data  
2 access requests received by a first storage system in the clustered storage system to a  
3 second storage system in the clustered storage system and further enables the first storage  
4 system to assume an identity of the second storage system.

1 11. (Previously Presented) The system of claim 60 wherein the command for setting a  
2 cluster mode comprises a cfmode command.

1 12. (Previously Presented) The system of claim 60 wherein the user interface system  
2 further comprises a graphical user interface having functionality to implement the  
3 command set.

1 13. (Cancelled)

1 14. (Previously Presented) The method of claim 63 wherein the cluster mode comprises a  
2 partner mode; and  
3 wherein the clustered storage system is enabled to proxy data access requests  
4 received by a first storage system in the clustered storage system to a second storage  
5 system.

1 15. (Previously Presented) The method of claim 63 wherein the cluster mode comprises a  
2 standby mode; and  
3 wherein a first storage system in the clustered storage system is enabled to assume  
4 an identity of a second storage system in the clustered storage system.

1 16. (Previously Presented) The method of claim 63 further comprising providing a GUI  
2 implementing commands available through the user interface system.

1 17. (Previously Presented) The method of claim 63 further comprising providing a GUI  
2 window for setting a cluster mode of the clustered storage system.

1 18. (Previously Presented) The method of claim 16 further comprising providing a GUI  
2 window for setting a proxy option for an initiator group.

1 19. (Cancelled)

1 20. (Previously Presented) The system of claim 64 further comprising means for  
2 determining whether a set of initiators may utilize data access command proxying.

1 21. (Previously Presented) The system of claim 64 wherein user interface means further  
2 comprises means for determining whether a set of initiators may utilize data access  
3 command proxying.

1 22. (Original) The system of claim 21 wherein the set of initiators comprises at least one  
2 fibre channel world wide name.

1 23. (Original) The system of claim 21 wherein the set of initiators comprises one or more  
2 iSCSI identifiers.

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1 24. (Previously Presented) The system of claim 64 wherein the cluster mode enables the  
2 clustered storage system to proxy data access requests received by a first storage system  
3 in the clustered storage system to a second storage system in the clustered storage system.

1 25. (Previously Presented) The system of claim 64 wherein the cluster mode enables a  
2 first storage system in the clustered storage system to assume an identity of a second  
3 storage system in the clustered storage system.

1 26. (Previously Presented) The system of claim 64 wherein the cluster mode enables  
2 proxying of data access requests received by a first storage system in the clustered  
3 storage system to a second storage system in the clustered storage system and further  
4 enables the first storage system to assume an identity of the second storage system.

1 27. (Cancelled)

1 28. (Previously Presented) The computer readable medium of claim 65 wherein the  
2 cluster mode comprises a partner mode; and  
3 wherein the clustered storage system is enabled to proxy data access requests  
4 received by a first storage system in the clustered storage system to a second storage  
5 system.

1 29. (Previously Presented) The computer readable medium of claim 65 wherein the  
2 cluster mode comprises a standby mode; and  
3 wherein a first storage system in the clustered storage system is enabled to assume  
4 an identity of a second storage system in the clustered storage system.

1 30. (Previously Presented) The computer readable medium of claim 65 further  
2 comprising the step of providing a GUI implementing commands available through the  
3 user interface system.

1 31. (Previously Presented) The computer readable medium of claim 65 further  
2 comprising the step of providing a GUI window for setting a cluster mode of the  
3 clustered storage system.

1 32. (Previously Presented) The computer readable medium of claim 65 further  
2 comprising the step of providing a GUI window for setting a proxy option for an initiator  
3 group.

1 33. (Cancelled)

1 34. (Previously Presented) The system of claim 66, wherein the interface comprises a  
2 command line interface (CLI) configured to support the command set.

1 35. (Previously Presented) The system of claim 66, wherein the command set further  
2 comprises an igroup command that determines whether a set of initiators may utilize data  
3 access command proxying.

1 36. (Previously Presented) The system of claim 35, wherein the set of initiators comprises  
2 at least one fibre channel world wide name.

1 37. (Previously Presented) The system of claim 35, wherein the set of initiators comprises  
2 one or more iSCSI identifiers.

1 38. (Previously Presented) The system of claim 35, wherein the igroup command sets an  
2 igroup option to determine whether members of a set of initiators may use a partner port  
3 for proxying data access command.

1 39. (Previously Presented) The system of claim 66, wherein the cluster mode enables the  
2 clustered storage system to proxy data access requests received by a first storage system  
3 in the clustered storage system to a second storage system in the clustered storage system.

1 40. (Previously Presented) The system of claim 66, wherein the cluster mode enables a  
2 first storage system in the clustered storage system to assume an identity of a second  
3 storage system in the clustered storage system.

1 41. (Previously Presented) The system of claim 66, wherein the cluster mode enables  
2 proxying of data access requests received by a first storage system in the clustered  
3 storage system to a second storage system in the clustered storage system and further  
4 enables the first storage system to assume an identity of the second storage system.

1 42. (Cancelled)

1 43. (Previously Presented) The method of claim 67, wherein the interface is a command  
2 line interface.

1 44. (Previously Presented) The method of claim 67, wherein the interface is a graphical  
2 user interface.

1 45. (Previously Presented) The method of claim 67, wherein the selected cluster mode  
2 enables the clustered storage system to proxy data access requests received by a first  
3 storage system in the clustered storage system to a second storage system in the clustered  
4 storage system.

1 46. (Previously Presented) The method of claim 67, wherein the selected cluster mode  
2 enables a first storage system in the clustered storage system to assume an identity of a  
3 second storage system in the clustered storage system.

1 47. (Previously Presented) The method of claim 67, wherein the cluster mode enables  
2 proxying of data access requests received by a first storage system in the clustered  
3 storage system to a second storage system in the clustered storage system and further  
4 enables the first storage system to assume an identity of the second storage system.

1 48. (Cancelled)

1 49. (Previously Presented) The system of claim 68, wherein the plurality of failure  
2 modes comprises a standby mode, a partner mode, a dual fabric mode, and a mixed  
3 mode.

1 50. – 58. (Cancelled)

1 59. (Previously Presented) The system of claim 60 wherein the igroup allows a user to  
2 define related clients by a logical name.

1 60. (Currently Amended) A system configured to simplify management of a clustered  
2 storage system having a plurality of failover modes, the system comprising:  
3 a user interface system that allows a user to define ~~a~~the plurality of failover  
4 modes in the clustered storage system, wherein each failover mode automatically  
5 configures one or more ports on a selected storage system or a partner storage system in  
6 response to a failover condition, wherein the partner storage system is configured to  
7 receive requests directed to the partner storage system and the selected storage system,  
8 each failover mode further configuring the partner storage system with a world wide node  
9 name and a world wide port name from the selected storage system to allow the partner  
10 storage system to assume an identity of the selected storage system; and  
11 a command set implemented by the user interface system, the command set  
12 including a first command and a second command,  
13 the first command configured to permit the user to specify a specific  
14 initiator group (igroup) to utilize the one or more ports for data access proxying in  
15 the clustered storage system wherein the igroup is a logical named entity assigned  
16 to one or more addresses that are associated with one or more initiators and the  
17 igroup is used by higher layer vdisk commands to allow the data access proxying  
18 to ~~a~~the partner storage system,  
19 the second command configured to set a cluster mode, the cluster mode  
20 including at least one of the plurality of failover modes in which a storage system  
21 is to operate,

22 wherein the command set further provides information specific to ~~the~~ failover  
23 operations of the one or more ports to the user on the user interface system.

1 61. (Previously Presented) The system of claim 60 wherein data access at a lun level is  
2 not affected by reorganization of the initiators.

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2 62. (Previously Presented) The system of claim 60 wherein data access proxying  
3 comprises receiving, at a proxy port of a first storage system, a command to be forwarded  
4 to a second storage system for execution.

1 63. (Currently Amended) A method for simplifying management of a clustered storage  
2 system having a plurality of failover modes, comprising:

3 providing a user interface system that allows a user to define ~~a~~the plurality of  
4 failover modes in ~~a~~the clustered storage system wherein each failover mode  
5 automatically configures one or more ports on a selected storage system or a partner  
6 storage system in response to a failover condition, wherein the partner storage system is  
7 configured to receive requests directed to the partner storage system and the selected  
8 storage system, each failover mode further configuring the partner storage system with a  
9 world wide node name and a world wide port name from the selected storage system to  
10 allow the partner storage system to assume an identity of the selected storage system; and  
11 executing a command set supported by the user interface system, the command  
12 set including a first command and a second command,

13 the first command configured to permit the user to specify a specific  
14 initiator group (igroup) to utilize the one or more ports for data access proxying in  
15 the clustered storage system wherein the igroup is a logical named entity assigned  
16 to one or more addresses that are associated with one or more initiators and the  
17 igroup is used by higher layer vdisk commands to allow the data access proxying  
18 to ~~a~~the partner storage system,



19                   the second command configured to set a cluster mode for the clustered  
20           storage system, the cluster mode defining one of ~~a~~the plurality of failover modes  
21           in which a storage system is to operate,  
22           wherein the command set further provides information specific to ~~the~~ failover  
23           operations of the one or more ports to the user on the user interface system, and each  
24           failover mode automatically configures the one or more ports on ~~a~~the selected storage  
25           system or ~~a~~the partner storage system in response to ~~a~~the failover condition, the partner  
26           storage system configured to receive requests directed to the partner storage system and  
27           ~~the~~ a failed storage system.

1   64. (Currently Amended) A system configured to simplify management of a clustered  
2   storage system having a plurality of failover modes, the system comprising:  
3           a user interface means for implementing a command line interface that allows a  
4           user to define ~~a~~the plurality of failover modes in ~~a~~the clustered storage system wherein  
5           each failover mode automatically configures one or more ports on a selected storage  
6           system or a partner storage system in response to a failover condition, wherein the partner  
7           storage system is configured to receive requests directed to the partner storage system  
8           and the selected storage system, each failover mode further configuring the partner  
9           storage system with a world wide node name and a world wide port name from the  
10          selected storage system to allow the partner storage system to assume an identity of the  
11          selected storage system; and  
12          means for executing a command set, the command set including a first  
13          command and a second command,  
14          the first command configured to permit the user to specify a specific  
15          initiator group (igroup) to utilize the one or more ports for data access proxying in  
16          the clustered storage system wherein the igroup is a logical named entity assigned  
17          to one or more addresses that are associated with one or more initiators and the  
18          igroup is used by higher layer vdisk commands to allow the data access proxying  
19          to ~~a~~the partner storage system, and

20                   the second command configured to set a cluster mode, the cluster mode  
21           defining one of ~~a~~the plurality of failover modes in which a storage system is to  
22           operate,  
23           wherein the command set further provides information specific to ~~the~~ failover  
24           operations of the one or more ports to the user on the user interface system.

1   65. (Currently Amended) A non-transitory computer readable medium containing  
2   executable program instructions executed by a processor, for simplifying management of  
3   a clustered storage system having a plurality of failover modes, the computer readable  
4   medium comprising:

5           program instructions that provide a user interface system that allows a user to  
6   define ~~a~~the plurality of failover modes in ~~a~~the clustered storage system,  
7           wherein each failover mode automatically configures one or more ports on  
8           a selected storage system or a partner storage system in response to a failover  
9           condition, and

10           wherein the partner storage system is configured to receive requests  
11           directed to the partner storage system and the selected storage system, each  
12           failover mode further configuring the partner storage system with a world wide  
13           node name and a world wide port name from the selected storage system to allow  
14           the partner storage system to assume an identity of the selected storage system;  
15           and

16           program instructions that execute a command set supported by the user interface  
17           system to set a cluster mode for the clustered storage system, the command set including  
18           a first command and a second command,

19           the first command configured to permit the user to specify a specific  
20           initiator group (igroup) to utilize the one or more ports for data access proxying in  
21           the clustered storage system wherein the igroup is a logical named entity assigned  
22           to one or more addresses that are associated with one or more initiators and the  
23           igroup is used by higher layer vdisk commands to allow the data access proxying  
24           to ~~a~~the partner storage system,

25                   the second command the cluster mode defining one of a plurality of  
26                   failover modes in which a storage system is to operate,  
27                   wherein the command set further provides information specific to ~~the~~ failover  
28                   operations of the one or more ports to the user on the user interface system.

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2   66. (Currently Amended) A system, comprising:

3                   an interface that defines a plurality of failover modes for a clustered storage  
4                   system that allows a user to define a plurality of failover modes in a clustered storage  
5                   system

6                   wherein each failover mode automatically configures one or more ports on  
7                   a selected storage system or a partner storage system in response to a failover  
8                   condition, and

9                   wherein the partner storage system is configured to receive requests  
10                  directed to the partner storage system and the selected storage system, each  
11                  failover mode further configuring the partner storage system with a world wide  
12                  node name and a world wide port name from the selected storage system to allow  
13                  the partner storage system to assume an identity of the selected storage system;  
14                  and

15                  a command set implemented by the interface, the command set including a first  
16                  command and a second command,

17                  the first command configured to permit the user to specify a specific  
18                  initiator group (igroup) to utilize the one or more ports for data access proxying in  
19                  the clustered storage system wherein the igroup is a logical named entity assigned  
20                  to one or more addresses that are associated with one or more initiators and the  
21                  igroup is used by higher layer vdisk commands to allow the data access proxying  
22                  to ~~a~~ the partner storage system,

23                  the second command configured to set a cluster mode using one of the  
24                  plurality of failover modes, in which a storage system is to operate,

25                  wherein the command set further provides information specific to ~~the~~ failover  
26                  operations of the one or more ports to the user on the user interface system.

1   67. (Currently Amended) A method, comprising:  
2           providing an interface that defines a plurality of failover modes in a clustered  
3   storage system wherein the cluster storage system includes a plurality of servers  
4           wherein each failover mode automatically configures one or more ports on  
5   a selected storage system or a partner storage system in response to a failover  
6   condition, and  
7           wherein the partner storage system is configured to receive requests  
8   directed to the partner storage system and the selected storage system, each  
9   failover mode further configuring the partner storage system with a world wide  
10   node name and a world wide port name from the selected storage system to allow  
11   the partner storage system to assume an identity of the selected storage system;  
12   selecting a command set supported by the interface to set a cluster mode for the  
13   clustered storage system, the command set including a first command and a second  
14   command,  
15           the first command configured to permit the user to specify a specific  
16   initiator group (igroup) to utilize the one or more ports for data access proxying in  
17   the clustered storage system wherein the igroup is a logical named entity assigned  
18   to one or more addresses that are associated with one or more initiators and the  
19   igroup is used by higher layer vdisk commands to allow the data access proxying  
20   to ~~a~~ the partner storage system,  
21           the second command configured the cluster mode defining one of a  
22   plurality of failover modes in which a storage system is to operate,  
23           wherein the command set further provides information specific to ~~the~~  
24   failover operations of the one or more ports to the user on the user interface  
25   system; and  
26   configuring the clustered storage system into the selected cluster mode.

68. (Currently Amended) A system configured to simplify management of a clustered  
storage system having a plurality of failover modes, the system comprising:

an interface system that defines ~~a~~the plurality of failover modes in ~~a~~the clustered storage system automatically responding to a failover condition, wherein each failover mode configures one or more ports on a selected server or a partner server in response to a failover condition, each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume an identity of the selected storage system; and

a command set implemented by the interface system, the command set including a first command and a second command,

the first command configured to permit the user to specify a specific initiator group (igroup) to utilize the one or more ports for data access proxying in the clustered storage system wherein the igroup is a logical named entity assigned to one or more addresses that are associated with one or more initiators and the igroup is used by higher layer vdisk commands to allow the data access proxying to ~~a~~the partner storage system,

the second command configured to set a cluster mode where the cluster mode includes one of the plurality of failover modes in which a storage system is to operate,

wherein the command set further provides information specific to ~~the~~ failover operations of the one or more ports to the user on the user interface system